

**HIGH-ALTITUDE LAUNCHING OF ROCKETS LIFTED BY  
HELIUM DEVICES AND PLATFORMS WITH ROTATABLE WINGS**

**ABSTRACT**

A system is disclosed for lifting a rocket into the upper atmosphere and establishing forward flight at several hundred miles per hour, before the rocket engines are ignited and the rocket is released from the lifting system. The main subassemblies of this lifting system comprise:

(1) an array of large helium-filled dirigibles, of a size that can provide hundreds or thousands of tons of lifting force;

(2) a tank-holding assembly that will be tethered to the dirigibles, and that will contain pumps and high-pressure tanks, to recapture and store the helium for use in subsequent launches; and,

(3) a winged platform, with wings that can be rotated vertically during liftoff, and horizontally to establish forward flight after a desired altitude has been reached, and having conventional aircraft engines on each wing.

This system enables safer, less expensive, and more efficient launching of rockets and heavy payloads into space, using easily reusable subassemblies.